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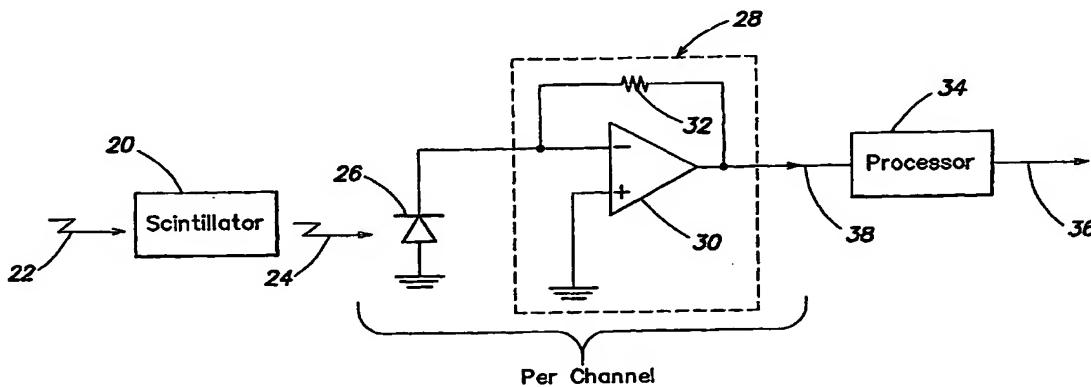
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(54) Title: X-RAY IMAGING TECHNIQUE



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(57) Abstract: A security system for detecting contraband such as explosives. The system has a source of radiation and a detector array. A detector array is made of many small detectors, each with a fast response time. The fast response time allows individual radiation photon interactions with each detector to be counted. By counting the number of interactions in an interval of time, the amount of radiation reaching the detector can be measured. The magnitude of the response from the detector to each radiation interaction allows measurement of the energy level of the photons interacting with the detector. Such a system provides significant flexibility in analyzing data collected from items under inspection. For example, objects such as contraband can be identified within the item under inspection by processing the data to accurately determine both the density and type of material.